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ABSTRACT

This report is in three sections. The first section, "Design Options for an Integrated Curriculum," includes a short discussion of integration of academic and vocational education, references to some curriculum integration models, and nine examples of local Nebraska efforts in incorporating curriculum integration models. The second and lengthiest section presents descriptions of 29 "best practices" in Nebraska schools. The final section provides information on resources for integrated curriculum in applied academics, tech prep consortiums, and curriculum frameworks. It also provides information on: the Nebraska Vocational Curriculum Resource Center; the Southern Regional Education Board (SREB); the National Center for Research in Vocational Education; and the World Wide Web. (ND)

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Nebraska Curriculum Integration

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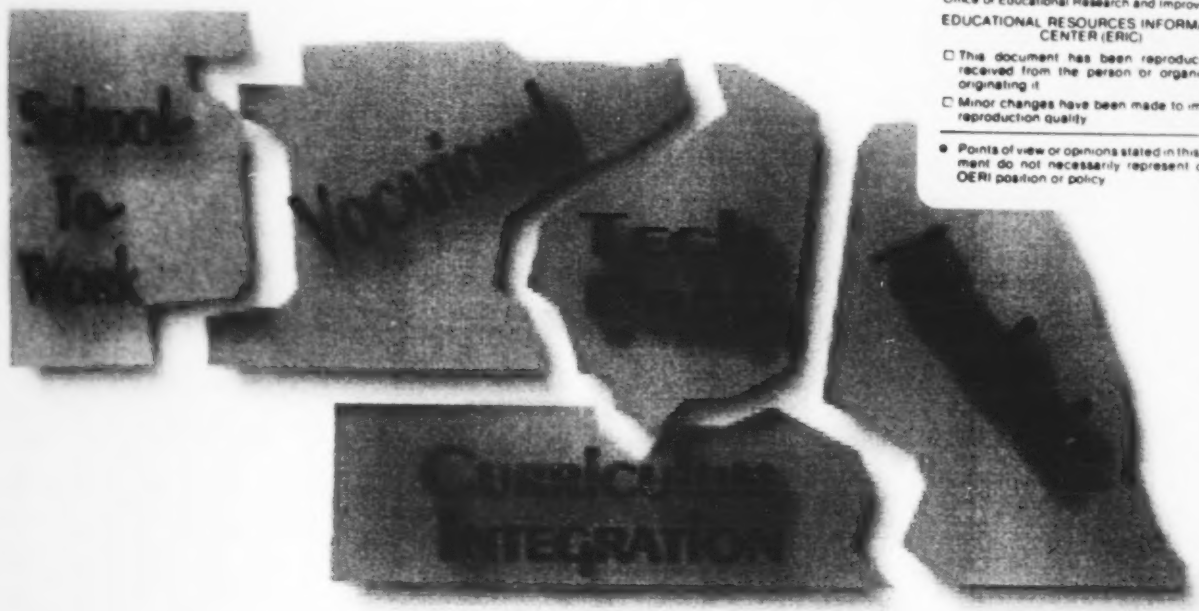

1996 Innovative Strategies in Nebraska Schools

Division of Education Services
Nebraska Department of Education

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INNOVATIVE CURRICULUM INTEGRATION BEST PRACTICE SUBMISSION FORM

May, 1996

The Carl D. Perkins Vocational and Applied Technology Education Act of 1990 provided federal funds to help school districts shift their vocational education programs from a traditional job-skills orientation toward the broader purpose of using vocational education as a vehicle for learning academic content.

The integration of academic and vocational education has the potential to strengthen education and should result in tearing down the barriers and creating desirable learning opportunities for all students. Integration of academic and vocational education should be based on answers to two critical questions:

What should students learn?
How do they best learn it?

If we begin with these questions and design the curriculum as learning opportunities for students, the integration of academic and vocational education will likely occur. In addition, more meaningful learning for students will be achieved.

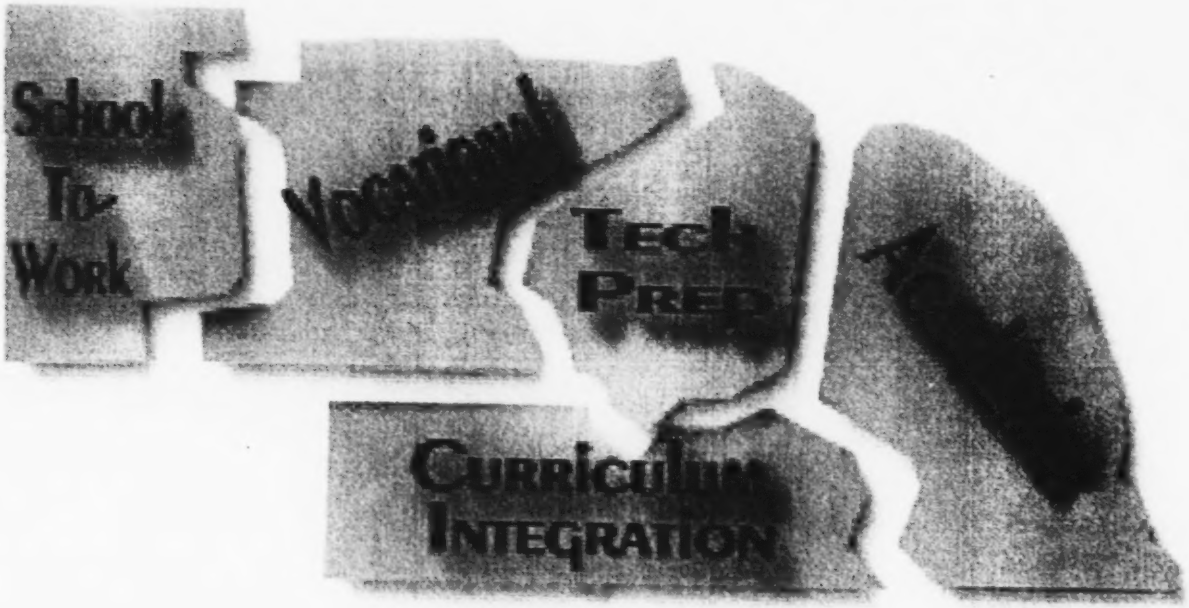
This booklet identifies examples of how Nebraska schools have redesigned local schools' curriculum so that all students have an opportunity to develop higher-order skills, to see the relevance of their education to preparation for careers, and to prepare for both employment and further education.

Student learning in Nebraska is being strengthened through curriculum integration. The creativity and initiative of teachers, administrators, parents, school boards, and communities are creating multiple ways of connecting and merging curricula. The local district's curriculum design should be built upon what students should know, how they best learn, and how learning connects to real life.

DOUGLAS D. CHRISTENSEN, Ph.D.
Commissioner of Education

ANN MASTERS, Administrator
Curriculum/Instruction

Design Options for an Integrated Curriculum



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The integration of academic and vocational education is changing American high schools. Teachers are collaborating to strengthen coursework for both college-bound and career-bound youth. College preparatory courses are incorporating hands-on methods from vocational education while vocational courses are incorporating basic and advanced academic content for vocational students. A marriage rather than a sibling rivalry exists between academic and vocational education, as well as between theory and practice. The result is that all students are able to make real-life connections throughout the learning process.

In 1987, the Southern Regional Education Board (SREB) formed a consortium of states that promotes adding rigor and purpose to schooling for the "forgotten half." Today, there are over 400 sites in 19 states. SREB research results indicate that all high school students can excel in mathematics, science and problem-solving. As a group, vocational students in SREB consortium schools scored significantly higher in reading and mathematics than comparable students nationwide. In both areas, they matched or exceeded achievement of general curriculum students in both public and private schools (Bottoms, 1995; Bottoms and Presson, 1994).

The barrier between academic and vocational education is an artificial one, often expressed as the difference between learning for the sake of learning and learning for a purpose. "In our country," said Gene Bottoms, Director of High Schools That Work (the SREB curriculum integration initiative), "we insist that our brightest students—those in the college preparatory curriculum—pursue a well-defined, structured program of study with few options. However, the students most in need of structure—students in the general and vocational curricula—are provided with the least. The result is that these students wander through a 'cafeteria' curriculum of endless choices in which too many spend too much time at the dessert table" (G. Bottoms, keynote speaker, North Platte Conference, May 6, 1992).

The Carl D. Perkins Vocational and Applied Technology Education Act of 1990 was based on the belief of Congress that education must be redesigned. Through this legislation, federal funds are made available to help school districts shift their vocational education programs from a traditional job-skills orientation toward the broader purpose of using vocational education as a vehicle for learning academic and other kinds of thinking skills and for linking thought with action. At both the secondary and postsecondary levels, the legislation calls for the integration of academic and vocational education.

The call to integrate academic and vocational competencies and skills extends beyond the vocational community. Project 2061 is a plan of the American Association for the Advancement of Science (AAAS) to reform education in science, mathematics and technology. This reform effort has defined scientific literacy, is currently developing curriculum to achieve this literacy, and will facilitate a collaborative effort to move the nation toward scientific literacy. *Science for All Americans* states, "The set of recommendations constitutes a common core of learning in science, mathematics, and technology for all young people, regardless of their social circumstances and career aspirations" (AAAS, 1990). Similarly, the *Mathematics and Science Frameworks for Nebraska Schools* reinforces the academic commitment to curriculum integration: "With technology influencing the lives of citizens so personally, mathematics and science concepts can no longer be for a select few; these concepts need to be developed and cultivated by all students throughout their educational programs" (Nebraska Department of Education, 1994).

According to Dr. Doug Christensen, Nebraska Commissioner of Education, integration of academic and vocational education will strengthen education, and should result in tearing down the barriers and creating

desirable learning opportunities for all students. Integration of academic and vocational education should be based on answers to two critical questions:

- What should students learn?
- How do they best learn it?

If we begin with these questions and design the curriculum as learning opportunities for students, the integration of academic and vocational education will likely occur. In addition, more meaningful learning for students will be achieved (Nebraska Department of Education, 1992).

There are two dimensions to learning: literacy for learning (school success) and literacy for living (life success). Literacy for learning means teaching kids how to be successful in school while literacy for living means being a success in life. To make every classroom experience worthwhile, it should either help students to learn more in school or have an application outside of school. Ideally, learning activities would have both. Classroom experiences need to be connected in some way to the life one lives right now, either as a student or ready to enter the next phase which is called The Next Steps (D. Christensen, speech on "Creating a Framework for School Improvement" at the MCREL Summit Education Commission on October 26, 1995, Boulder, CO).

- Be a citizen and be successful.
- Enter continuing/formal education and be successful.
- Enter the world of work and be successful.

CURRICULUM INTEGRATION MODELS

Throughout the nation, schools have developed a wide variety of integration models to improve academic and technical achievement. Schools new to the movement, therefore, have access to a growing body of practice and theory upon which they can draw to develop effective local programs.

Heidi Hayes Jacobs (1989), an early leader and theorist in interdisciplinary curriculum, describes three approaches to curriculum integration in *Interdisciplinary Curriculum*. They include integration within single disciplines; integration across several disciplines; and integration within and across disciplines. She further delineates ten models: fragmented, connected, nested, sequenced, shared, webbed, threaded, integrated, immersed, and networked.

In *Planning Integrated Curriculum: The Call to Adventure,* Susan Drake (1993) labels three different approaches to structuring curriculum. The multidisciplinary approach is discipline-based and focuses on separate disciplines addressing the same theme. The interdisciplinary approach works across disciplines and focuses on the commonalities needed to attain essential and predetermined generic skills. The transdisciplinary approach refers to curriculum that transcends disciplinary boundaries by employing real-life context to attain essential learnings.

In Nebraska, the methods of integration are determined at the local level. The process a local district uses to develop a shared vision is the most important aspect of developing integrated curriculum. A supportive

environment that is open to change will allow teachers to design and implement curricula that best fits the needs of their students. According to research completed by the SREB, the following are key to the integration process: team building and collaboration among teachers, increased planning time for teams, creative scheduling, teacher empowerment to develop ownership, delegation of responsibility, and relevant professional development activities (SREB, 1994).

The *Enhancing Learning Environments Through Curriculum Integration* document is an initial effort of the Nebraska Department of Education (NDE) to assist Nebraska's schools in understanding the nature and value of integrating vocational and academic education. "The mission of integrated learning is to create a partnership that brings academic and vocational educators together to plan and implement the integration of academic and vocational education in challenging, quality, equitable, and accountable programs of study." The seven models identified in the document (NDE, 1992) are:

- Vocational teachers introduce academic competencies into vocational courses.
- Academic teachers work with vocational teachers to introduce academic competencies into vocational courses.
- Teachers modify the academic curriculum to make it more vocationally relevant.
- Teachers modify both the academic and vocational curriculum to incorporate strengths of each other's curricula (curricular alignment—horizontal and vertical).
- Senior project—a student-centered research project that requires an applied product that is often presented to an audience. The student utilizes the expertise of several faculty and/or community members to direct and complete the project.
- Academy model—schools-within-schools and teams of teachers who stay with students.
- Occupational clusters and career paths—maintains conventional academic and vocational departments with added requirement that students/teachers be organized in "career paths" or occupational clusters. Replaces conventional departments with occupational clusters.

NEBRASKA IMPLEMENTATION

Since 1992, Nebraska schools have been learning about and incorporating curriculum integration models. A few examples of local efforts follow.

Students at **St. Edward High School** are involved in a semester entrepreneurship class. Students conduct market surveys, write and implement a business plan, and produce and market a product for sale. This project allows students to work with community businesses to secure a bank loan, purchase supplies, advertise, research local legal requirements, and market the product. Students draw upon academic and technical skills, including communication, computation, and problem solving.

A new technology education class for eighth and ninth grades has been incorporated into the **Gering Junior High School** curriculum. The course contains the following areas: robotics, engineering, aerospace, power and transportation, electronics, small engines, materials and processes, CAD, and technologies of tomorrow. Academic skills that are incorporated include physics, mathematics, science and writing.

Junior English students at **Geneva High School** are being challenged through a Research Mentor/Community Integration Project. The four areas of proficiency include the ability to communicate and work collaboratively, the ability to adapt, the ability to think critically, and the ability to use available technology. Because most workplace writers do essential research that draws upon several subject areas, the students select a topic to research that includes a minimum of three curricular areas with at least one academic and one vocational area. The topics are to be of interest to the students and relevant to their lives. A final paper and audio-visual or oral presentation using technology completes the project.

As a result of the exit outcomes expected of graduates of **Elmwood-Murdock High School,** the social science and business departments now require Critical Issues for all senior students. This course integrates the following topics: taxation, insurance, community service, meeting management, and job application. Students demonstrate an understanding of the knowledge, skills, and attitudes necessary to succeed in their diverse roles within society. These skills are assessed by the student, parent, community patrons, and teachers.

Columbus Lakeview High School offers BECI (Business English Curriculum Integration) to all students in high school grade-level English courses. The English and business education staff have developed a philosophy for integration complete with project outcomes directed toward the district's graduation outcomes. Nine weeks of each English course is devoted to providing learners skills and concepts reflecting the new integrated effort. The focus for ninth grade students is on career search, group communication, and workplace communication. In the tenth grade, career development, check writing, problem solving on the job, and consumer awareness are studied. Career search update and conflict resolution are the focus in the eleventh grade course; and twelfth grade students concentrate on interviews, finances, changing jobs, and presenting a point of view. As a result of this innovative approach, all students are receiving English graduation credit while gaining exposure to the content of a typical Business/Applied Communications course.

Omaha Benson 2000 strives to improve students' readiness for postsecondary education and for the workplace, to enhance Benson's connections with postsecondary institutions and business and industry, and to make the Benson experience relevant. The implementation of this plan includes the following:

- Organize Benson's courses into several broad areas of interest called Curricular Paths.
- Relate academic subjects to real problems encountered in today's work world.
- Set performance standards to increase student learning.
- Develop a course of study and a career folder for each student beginning with a career plan at ninth grade.

Wayne Community Schools provides the infrastructure to incorporate technology into the educational program for the benefit of all students. For example, an elaborate computer network provides students access to resources far beyond the boundaries of the district. Furthermore, the industrial technology program incorporates a variety of laboratory modules that include bio-related technology, computer problem solving, research and design, robotics, plastics technology, telecommunications, and meteorology and weather. The industrial technology laboratory also serves as a place where students can explore careers. To assist students in making career decisions, the school offers a Career Awareness Exploration Strategies unit structured

around four paths: Business and Communications, Engineering and Technology, Fine Arts and Humanities, and Health and Human Services.

The Vocational Special Needs Program at **Columbus High School** links guidance services, classroom instruction, and cooperative work experiences. Students assess their own personalities, skills, values, interests, and aptitudes. Each student identifies jobs and careers most suited to personal needs, capabilities, and preferences. The goal is to assist students to develop appropriate attitudes, behaviors, and work skills. Senior students may select cooperative work experience as an option. The result is a program that delivers vocational and career services to disadvantaged, handicapped, or at-risk students.

Seventh and eighth grade students at **Chase County High School** explore community resources through an integrated agriculture and science education curriculum. Due to Imperial's location, the issue of water quality at the surface and in the Ogallala aquifer has provided the opportunity for students to become actively involved in the community. Project POW (Protect Our Water) engages students in analyzing surface water samples, studying agricultural and industrial chemical runoff and leaching, and identifying and plugging abandoned area wells. Using the agricultural education aquaculture facilities, the students conduct water quality experiments including the effect on fish and wildlife. In addition, students have cooperated with the Natural Resources District in creating an arboretum that they maintain on school property, and they are working on an urban wildlife habitat project. The natural resources theme is extended to elementary students in southwestern Nebraska through SCORE (Science Camps Offer Rewarding Experiences). This camp provides hands-on agricultural and science experiences to help students understand the balance of natural resources use and preservation.

SUMMARY

Student learning in Nebraska is being strengthened through curriculum integration. The creativity and initiative of teachers, administrators, parents, school boards, and communities are creating multiple ways of linking and merging curricula. The local district's curriculum design should be built upon what students should know, how they best learn, and how learning connects to real life.

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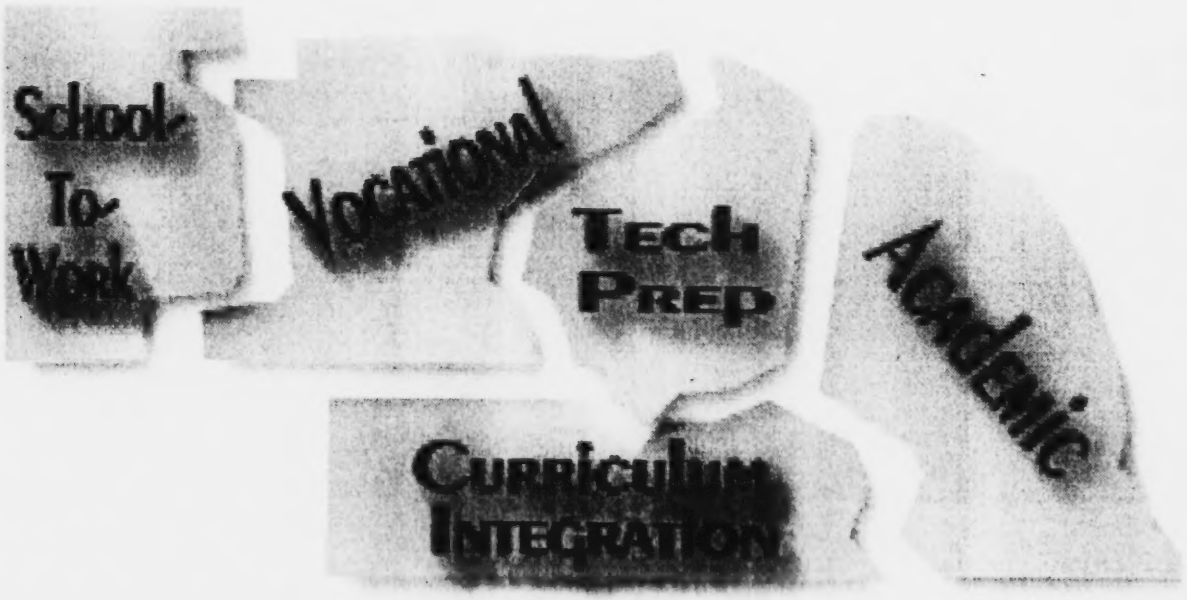
NOTE: "Design Options for an Integrated Curriculum" was published in the 1996 spring issue of *Leadership Nebraska.* Authors included Nebraska Department of Education staff: Shirley Baum, Rex Filmer, Evelyn Lavaty, Winona Maxon, Bonnie Sibert, Ed Woeppel, and Jim Woodland.

Nebraska's Best Practices



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A VEHICLE FOR AN INTEGRATED CURRICULUM PROJECT

PROGRAM AREAS

Science, Industrial Technology, Fine Arts, Mathematics, Business Education

GRADE LEVELS

5 - 12th Grades

CONTACT

Adams Public Schools
PO Box 259
Adams, NE 68301
(402) 988-2525

DESCRIPTION

The mission for students at Adams Public Schools: To construct a human-powered vehicle to compete in several events: track (400 meters), sprint (74 meters), obstacle (go around track with several bales of hay), coast (down a hill by the school), and commute (loading and unloading one-gallon milk cartons of water at specific places).

The rules for construction include three load-carrying wheels no smaller than a 20-inch bike tire, no commercial frame, human powered, and operate with two or more persons on board. The project fits in with the study of simple machines in fifth through eighth grade science and high school physics. Most of the construction is done outside of class time at the homes of students, which involves parents and the community.

An electric vehicle was designed around an old golf cart. The project was started in chemistry class with the chemistry of the battery and will be finished in physics class the next year, which involves most of the same students. This is more complex than the human-powered project but is a real-life project. It is hoped that the class can take a trip with both vehicles in Nebraska visiting sites of scientific interest.

PORTFOLIO ASSESSMENT OF SCHOOL-TO-WORK PROGRAM

PROGRAM AREAS

All Areas and Courses

GRADE LEVELS

12th Grade

CONTACT

Arlington Public Schools
Box 580
Arlington, NE 68002
(402) 478-4171

DESCRIPTION

The Arlington School-to-Work program allows seniors to receive hands-on experiences during the school day in a selected area of interest. Assessment of their experience is done through a portfolio. Students are responsible to develop a portfolio that describes their experiences and shows their best work from the job experience. The students receive credit from their experiences and develop a better understanding of the careers and skills needed to become better employees in their chosen career areas.

CAREER AND WORKPLACE READINESS

PROGRAM AREAS

All Areas and Courses

GRADE LEVELS

9 - 12th Grades

CONTACT

Beatrice Public Schools
215 North Fifth Street
Beatrice, NE 68310
(402) 223-1515

DESCRIPTION

Career and Workplace Readiness is a program emphasizing work skills and job ethics. Students are enrolled in the Career and Workplace class in conjunction with on-the-job training in Career Exploration or Tech Prep Occupational internships. Career and Workplace Readiness as a class stresses employability skills and work maturity. Students apply concepts learned in the class to job-site situations. Students learn skills involving communication and cooperation at the job-site. The major emphasis of the class is finding a job to meet the student's individual needs while exploring the job market requirements or a career goal.

The program goals allow students to:

- Apply work ethic skills to an on the job-site experience.
- Transition to employment after graduation.
- Participate in a job-site learning situation while attending school as an alternative to dropping out of school.
- Extend the learning experience beyond what is offered in vocational and college preparatory classes at the high school level.
- Participate in a technical job-site program earning articulated credit in approved Southeast Community College programs.

The Career and Workplace Readiness class meets one class period each day for one semester. Career Exploration or Tech Prep Occupational internship includes two or three class periods every day. Students must pass the designated number of classes as agreed upon in individual contracts.

WORK KEYS AT CENTRAL COMMUNITY COLLEGE

PROGRAM AREAS

All Areas and Courses

GRADE LEVELS

8th Grade Through Adults

CONTACT

Central Community College - Platte Campus
4500 South 63rd Street
PO Box 127
Columbus, NE 68602-1027
(402) 564-7132

DESCRIPTION

Work Keys is the first national system that enables education and business to work together to strengthen workplace skills achievement. Using this system, American College Testing has helped to bridge the communications gap between business and education by providing a "common language." The Work Keys system is composed of three parts:

- Job profiling to determine the skills that jobs desire
- Skill assessment to determine the skills an individual possesses
- Instructional support for educators as they help learners

Central Community College, Platte Campus in Columbus, Nebraska is a licensed Work Keys Service Center. The Service Center currently provides profiling, assessments and other services to businesses and schools in the nine-county area known as the East-Central Region. This area encompasses over 5,000 square miles and includes the counties of Boone, Butler, Colfax, Greeley, Merrick, Nance, Platte, Polk and Valley in central Nebraska. To date approximately thirty-five jobs have been profiled in the service area. These profiles have been added to the national data base of profiles, which are made available to any business or school using the Work Keys System.

In addition, the Work Keys Assessment System and Platte Campus Work Keys Service Center will be a major component of "Career Pathways and Partnerships," a regional School-to-Work project that will build upon the successful collaboration already existing in the area. With assistance from pilot project funding from the State of Nebraska's federal School-to-Work Developmental Grant, the East-Central Region has worked to develop its own School-to-Work System, which is ready for implementation. It is designed to serve over 14,000 students in grades K-12 alone in over 60 elementary-secondary schools districts, plus grades 13-14 at the postsecondary level.

TECH PREP EXPERIENCE

PROGRAM AREAS

Tech Prep, Career Education, Guidance

GRADE LEVELS

7 - 12th Grades

CONTACT

Centura Public Schools
Box 430
Cairo, NE 68824
(308) 485-4780

DESCRIPTION

Centura's first commitment to Tech Prep was to select an advisory committee from the community to give the program support and direction. Centura then began to in-service school staff, visit other schools with Tech Prep programs, attend workshops, and gather materials. All of this was made available to Centura High School through their articulation agreement with Central Community College.

Since then Centura has integrated Applied Mathematics, Applied Communications, Applied Economics, Workplace Readiness, and Principles of Technology into the curriculum. They have also worked on more drawing boards or curriculum pathways for the students to follow and to reach their career goals.

Other new ideas that have been introduced with the Tech Prep initiative are a teacher/adviser program called "Learning a Living" and implementing a student career academic handbook (a Student Career Folder and Planner).

Centura High School believes the Tech Prep experience will allow the school to meet the district goal: Every student will have a career objective and career plan upon graduation.

MACHINE TOOL 2 + 2

PROGRAM AREAS

Machine Tool Technology, Industrial Technology , Tech Prep

GRADE LEVELS

11 - 12th Grades

CONTACT

Columbus High School
2200 26th Street
Columbus, NE 68601-7115
(402) 563-7050

DESCRIPTION

Students from Columbus High School and surrounding schools are eligible to participate in an articulated program in machine tool technology with the Platte Campus at Central Community College. Students earn credits for a high school diploma as well as up to 12 credit hours that is equivalent to the certificate level at Platte. When students enroll at Platte, the hours are transferred tuition free to Platte. This allows the student advance placement in the machine tool program.

The course runs two periods a day for a year or the equivalent of 20 credit hours at Columbus High School. A feature of the program beginning in the second semester is the shadowing program called Values in Partnership. Students spend one day of the week in local industry rather than going to class for that day. Students see first hand how class theory and lab experiences relate to the world of work. Local industries provide mentors for the students that share their work experiences, background training requirements and other aspects of the job with the student one-on-one.

CAREER RESEARCH PROJECT

PROGRAM AREAS

English, Career Education

GRADE LEVELS

11th Grade

CONTACT

Crofton Community School
N. Hwy. 21
Crofton, NE 68730
(402) 388-2440

DESCRIPTION

Career Research Projects are an opportunity for students at Crofton High School to participate in an active School-to-Work event. As a part of the required English II curriculum, students use research and writing skills to study a career of their choice. A research paper is written using correct formats as studied in the class, along with a resume, letters of inquiry and application, and a thank you letter. These are placed in a portfolio for grading and future use by the student.

Each student then sets up a mock interview with an area businessperson who is actively involved with a related career. This is done during a non-school time. An evaluation is then returned by the interviewer.

Students also set up and complete a one-day job shadowing experience where they again work with someone in their chosen field. Students are given one school day to complete this assignment. A final report is made in essay form including likes, dislikes, job shadowing experiences, etc.

All students are required to take this class. This helps the school reach the goal of having students more "work ready" upon completion of their education.

PLANT PROPAGATION AND AQUACULTURE

PROGRAM AREAS

Agriculture, Biology

GRADE LEVELS

9 - 12th Grades

CONTACT

ESU #7 Consortium Schools
2657 44th Avenue
Columbus, NE 68601
(402) 564-5753

DESCRIPTION

To help students realize the strengths of different disciplines and to provide the maximum possible benefit for students are the basic premises by which the agriculture and biological science teachers developed their consortium project. The first phase of the project focused on "Biotechnology through Advanced Plant Propagation Techniques." The teams of biology and agriculture teachers were exposed to tissue culture, budding, and grafting. After the "bonding" of the teams during the first year, the second phase (year 2) of the project focused on the area of aquaculture. Aquaculture is a very old form of agricultural production, but is fast becoming an exciting new industry in the United States.

Aquaculture is the process by which water is used to raise food. Everything from fish to seaweed, lobsters to clams, crawfish to shrimp are being raised on farms throughout the entire school district. One of the goals of the project is to raise fish in the laboratories of the consortium schools. As a part of this project, teachers and guidance counselors have had the chance to see some of the outstanding research activities being conducted at the University of Nebraska-Lincoln College of Agriculture Sciences and Natural Resources.

CAREER DECISIONS

PROGRAM AREAS

Business Education, English, Family and Consumer Sciences, Guidance, Speech

CONTACT

Geneva High School
1410 L Street
Geneva, NE 68361
(402) 759-3141

GRADE LEVELS

11th and 12th Grades

DESCRIPTION

This project involves the integration of career guidance, job preparation, and goals for success. The theme primarily focuses on striving for success in one's life and the fears, obstacles, and failures one can face while working towards this goal. The course outcome is: Can the student make career decisions and demonstrate life skills? The following are the instructional outcomes and criteria.

The learner will:

1. Be able to set realistic and achievable goals.
2. Be able to define the "American Dream" and determine his or her own definition of success.
3. Be aware of obstacles and develop ways to face fears, anxieties, and failures.
4. Be aware of occupations in various career clusters; therefore, he/she will be able to make an informed career decision.
5. Understand how his/her career choice relates to money management and his/her lifestyle.
6. Use effective communication skills.
7. Perceive the importance of completing job search activities and learn how to do so.
8. Use decision-making models.

Each week all staff receive a success quote to integrate into their discussions. Members of the committee meet at least twice a month to check progress on the project.

HELPING STUDENTS PREPARE FOR THE FUTURE: A COOPERATIVE EFFORT

PROGRAM AREAS

Business Education, English

GRADE LEVELS

12th Grade

CONTACT

Johnson-Brock Public Schools
Box 186
Johnson, NE 68378
(402) 868-5235

DESCRIPTION

Preparation is the key in order to be successful in today's job market. Gathering and organizing information about one's self, and understanding how those interests and skills can help one choose a career suited to one's special personality, establishing immediate and long-term career goals, and learning effective job hunting techniques for future employment are the three major stages in that preparation—one that "helps students prepare for the future." "Helping Students Prepare for the Future - A Cooperative Effort," a teaching unit in place at Johnson-Brock Public Schools, was created to address those three stages and provide students with a valuable opportunity to prepare for the future.

In this unit, student career planning and preparation first begins with an assessment of student interests and skills which in turn leads to pursuit of research on three different career choices. Research on each of these careers includes such things as job descriptions, working conditions, employment potential, educational requirements, job outlook, earnings, and related occupations.

The second stage of the teaching unit includes three important steps in job hunting preparation: the resume, the cover letter, and the application. Students are enlightened regarding chronological and skills resumes, as well as the basic elements that need to be included on a resume. Writing cover letters is the next step in job-hunting preparation, as the students create cover letters for a potential employer in their career field. The third part of the job hunting preparation stage includes the accurate and complete preparation of various job applications. In this step students complete three job applications of varying length and detail.

The third stage of the teaching unit is the most significant and provides students with the greatest challenge. This is the interview phase; and following

review of the four stages of the interview process, as well as potential interview questions and answers, the students participate in mock interviews first with each other, and then in two final interviews arranged with community members in the business, administrative, and blue-collar career fields.

The final stage of the teaching unit includes follow-up procedures that students must complete. Students compose thank-you letters, which are then forwarded to their respective interviewers.

Each of the steps includes information on the following: general guidelines, things to do, things to avoid, and access to various samples. This information, as well as the information that the students are provided with from the stages listed above, is compiled in each student's career folder.

Since work will consume a large part of the students' lives, career education is an important consideration in preparing students for the future. "Helping Students to Prepare for the Future: A Cooperative Effort" is a teaching unit that provides relevant and timely experience to help students make informed career choices and get a head start on preparing for the job market, all part of Johnson-Brock Public Schools' effort to allow for easier transition from school-to-work.

APPLIED PSYCHOLOGY

PROGRAM AREAS

Family and Consumer Sciences, Social Studies

GRADE LEVELS

10 - 12th Grades

CONTACT

Lincoln High School
2229 J Street
Lincoln, NE 68510
(402) 436-1301

DESCRIPTION

This course uses the theoretical principles of psychology with the practical application of examples relevant to students. Students learn how behavior relates to an individual's sense of control and thinking to contribute more positively to society.

The units and major concepts studied within each are:

- Introduction to the study of behavior: careers; scientific method; how to study
- Life span (developmental psychology): developmental processes from prenatal through adulthood; developmental theories
- Personality: self-concept; self-assessment; labeling (stereotyping, sex roles, self-fulfilling prophecy)
- Behaving with others (social psychology): relationships (attraction, altruism, aggression); social institutions; social influence (conformity, obedience)
- Physiological aspects of behavior: addictive/compulsive behaviors (substance abuse, anxiety disorders); emotion (expression - including nonverbal, cultural, emotional; cognition and emotion); stress and wellness

This class has been accepted as a psychology equivalent at the University of Nebraska-Lincoln.

VENTURES IN PARTNERSHIP

PROGRAM AREAS

All Areas and Courses

GRADE LEVELS

9 - 12th Grades

CONTACT

Lincoln Northeast High School
2635 North 63rd Street
Lincoln, NE 68507
(402) 436-1345

DESCRIPTION

Northeast High School is stepping forward to connect with the "world of work" in a hands-on manner. Valentino's facilitated this VIP (Ventures in Partnership) experience by being the opening speaker at the Valentino's Corporate Seminar at the school. The Seminar was designed to allow faculty to receive in-depth information on the latest procedures and philosophy of a food business that is centered around pizza.

Faculty also interacted with nine key individuals associated with the success of the business in this seminar. The areas included finance, architectural design, marketing, and distribution. Faculty then had an opportunity to tie the examples used in their curriculum to an actual business with which students are familiar. As a result, students more quickly realize "why we should learn this."

The Corporate Seminar is another "piece of the pie" in the SHARE program, now a part of the Northeast curricular experience. SHARE stands for Students Having Academics Related to Enterprise. This seminar is the connecting piece as students relate more readily to the "world of work." The VIP Committee at the school sponsors the seminar.

VIP CLASS, A NEW APPROACH TO TEACHING AND LEARNING

PROGRAM AREAS

English, Industrial Technology, Resource, Tech Prep

GRADE LEVELS

9 - 12th Grades

CONTACT

ESU #11 and
Loomis High School
Box 250
Loomis, NE 68958
(308) 876-2111

DESCRIPTION

In a unique approach to vocational training, a Transition Counselor, an English teacher, and a resource teacher developed a teaching method complete with curricular ideas and activities to address reading, writing, communication, organization, and problem-solving skills in the areas of employment, but within the structure of the English class.

Technology, field trips, and community college course work combine to make this English class a good transition experience from high school to adult life.

THE IOTA PROJECT - THE WAVE OF THE FUTURE

PROGRAM AREAS

Accounting, Business Education, Computer Technology, Drafting, Art, Family and Consumer Sciences, Journalism, Tech Prep

GRADE LEVELS

9 - 12th Grades

CONTACT

Maxwell Public Schools
Box 188
Maxwell, NE 69123
(308) 582-4585

DESCRIPTION

Maxwell Public School has formed IOTA, Inc., a program designed to educate rural students into the community rather than out of it. Students at Maxwell are developing the skills necessary to own, operate, and manage their own businesses.

The concept began in 1992 when the school was the recipient of a Crossroads Education Grant from Apple Computer, Inc. A complete lab, including Macintosh computers, a CD-ROM, modem, scanner, several printers and software, was provided which enabled students to become business partners with community members. In fulfillment of the grant, students began providing services for farmers, ranchers, businesses, and organizations as they learned to use word processing, databases, spreadsheets, accounting, desktop publishing, and computer-aided design.

Technology was implemented into the curriculum to better prepare students with work-world skills and to meet the needs of the rural community. Individual and group responsibility was fostered by working with adults and the meeting of necessary deadlines. The computer services offered by the school run the gamut from accounting, advertising, designing of tickets and programs to forms for medical offices and tax receipts for service stations. Students in the business department act as consultants and advisors, training small business owners to develop and maintain their own accounting procedures. The entire school is committed to this project and each class becomes involved as the need arises.

Beginning in 1993, an entrepreneur class was offered to advanced business students. Students in this class contract with other classes to study the management and ownership of a business of their choice. The 1995-96 school year brought about an exciting development with a student applying for and receiving a loan to start her own business enterprise. The inception of a community support team has begun. Other students are looking forward to and making plans for businesses they would like to develop.

What started out four years ago as a small lab with eight Macintosh computers has grown into three dedicated labs. Maxwell School was featured on the cover of the October 1995 issue of *Electronic Learning*. Entrepreneurship projects have won district, state, and national competitions; and students have been asked to participate in technology showcases at the State Capitol. The students' enterprise has been a boost for the technology program, bringing in awards from The Knights of AK-SAR-BEN, US West, and the Peter Kiewit Foundation.

Enthusiasm and excitement abound at Maxwell as the students and the community work hand-in-hand.

MID-PLAINS CAREER ASSESSMENT AND PLANNING CENTER

PROGRAM AREAS

Career Education,
Tech Prep

GRADE LEVELS

8 - 12th Grades

CONTACT

Mid-Plains Community College
1101 Halligan Drive
North Platte, NE 69101
(800) 658-4308

DESCRIPTION

Area administrators and counselors have expressed an immediate need for in-depth career exploration activities for students to investigate college prep and tech prep career options. Statistics imply that many students need up-to-date career information about necessary skills and available training programs that will allow them to compete for the jobs of the future. As the school-to-work initiative emphasizes the importance of career education, area schools are requesting assistance from the Mid-Plains Community College Area Career Assessment and Planning Center.

Through the use of state-of-the-art computerized notebooks, the Career Center has developed a career awareness system capable of expanding career educational activities for secondary and postsecondary students. These career programs and activities will provide current information to assist students in the career decision-making process in an ever-changing technological society.

Students will gain exposure to the myriad of educational programs and occupations through career programs offered at the middle school and secondary school levels. Students will also receive a profile of individual interests, aptitudes, abilities, and work values. Information from these programs can be assembled to help students plan for the types of secondary and postsecondary courses of study designed to achieve their selected career objectives.

BEEN THERE, GONNA DO THAT

PROGRAM AREAS

English, Business Education

GRADE LEVELS

9th Grade

CONTACT

Monroe High School
408 Osborn Avenue
Monroe, NE 68647
(402) 495-2125

DESCRIPTION

The Business and English Departments at Monroe High School integrate a unit that focuses on the individual, his or her career goals, resume preparation, and the work world. The four sections of the unit include: "The One and Only You"—students write their autobiographies; "When I Grow Up, I Want to Be. . ."—students explore career options and prepare a visualization chart and research a career, "Sending Your Message"—students prepare a resume and reference page, fill out an application, and begin developing their portfolios; "The Work World"—students work in an office setting using a practice set entitled "The Student Activities Assistant."

BLOCK SCHEDULING

PROGRAM AREAS

All Areas and Courses

GRADE LEVELS

9 - 12th Grades

CONTACT

North Platte High School
1000 West Second Street
North Platte, NE 69101
(308) 535-7105

DESCRIPTION

At the start of the 1994-95 school year, the faculty and administration of North Platte High School implemented a 4x4 intensive block schedule (a.k.a. semesterized block) as part of the high school's overall restructuring plan. North Platte High School has four classes or "blocks" each day, but for only half the allotted time during the school year. For example, classes offered for a full year under the old traditional schedule are now only a semester in length. Classes which were a semester under the traditional format are now only nine weeks or one term in length. Students take the same number of courses that they had under the old format, but they take only four classes each term rather than eight.

Thus far, there has been an overall increase in student GPA's, a dramatic increase in the number of students who receive 4.00 GPA's each term, an increase in the number of honor roll students, improved attendance, fewer tardies, and a calming atmosphere in the climate of the building. Teachers' class loads are cut in half, they have fewer preps and they get to know their students better. This format has also allowed more academic learning time to be built back into the daily schedule while maintaining the same start and stop times for the individual school day.

CAREER PREP DAY

PROGRAM AREAS

All Areas and Courses

GRADE LEVELS

9 - 12th Grades

CONTACT

Omaha Benson High School
5120 Maple Street
Omaha, NE 68104
(402) 557-3000

DESCRIPTION

Beginning in the fall of 1994 all Benson students and staff focus on students' future careers for one day. While the sophomores are visiting college campuses to learn about postsecondary programs related to their curricular paths, freshmen are completing a career interest inventory, hearing about career opportunities in Omaha from several business and industry representatives, and meeting recruiters from many local technical schools and colleges. Juniors and seniors are involved in a national employment skills testing program developed by the American College Testing organization.

Two guest speakers from business and government address the freshmen on Career Prep Day. More than 40 representatives are available to freshmen to provide information about postsecondary opportunities, from trade apprenticeship programs to military service to cosmetology instruction to technical training to university education. Most of the recruiters are available to upperclassmen during lunch. Colleges hosting the sophomores include Metro Community College (all three campuses), University of Nebraska at Omaha, and University of Nebraska Medical Center.

Each student is assigned to a campus where teachers and other college staff members present information about admissions and educational programs related to the student's career goals, as well as provide a tour of the relevant program facilities and campus landmarks. It is hoped that this informative and interesting day will inspire some discussion at home about students' plans for their future. As every parent knows, THERE IS LIFE AFTER HIGH SCHOOL and FAILING TO PLAN = PLANNING TO FAIL.

OMAHA JOB CLEARINGHOUSE: BUILDING A SCHOOL-TO-CAREER SYSTEM

PROGRAM AREAS

Career Education,
Tech Prep

GRADE LEVELS

11 - 12th Grades and beyond

CONTACT

Omaha Job Clearinghouse
PO Box 3777
Omaha, NE 68103-0777
(420) 449-8491

DESCRIPTION

The Omaha Job Clearinghouse (OJC) is a partnership comprised of the Greater Omaha Chamber of Commerce, the Omaha Public Schools, Metropolitan Community College, the Omaha Housing Authority, Job Training of Greater Omaha, the United Way of the Midlands, and over 350 employers.

The OJC formed in 1990 to address labor availability issues and the large numbers of employment-bound youth graduating from high school every year. Through a sequential job shadowing program, students were matched to employers of interest and exposed to all aspects of the industry through four visits to the host business during the senior year of high school.

In 1994, the Omaha Job Clearinghouse was one of 15 local partnerships nationwide selected to receive funding through the School-to-Work Opportunities Act. With this venture capital, the OJC is working now to develop a system of school-to-work opportunities in high wage/high skill positions. For at least 80 percent of these students, this will include some form of postsecondary education.

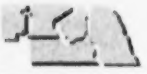
Its mission is to ensure that all youth successfully transition from schooling to employment in the primary labor market.

Some key features:

- Incorporates the major components of the School-to-Work Opportunities Act.
- Includes employers, educators, labor union representatives, parent and students in the partnership structure, with employers comprising over 50 percent of the membership.
- Integrates local goals for education reform and economic workforce development.
- Provides all students access to a full range of options.

- Allows private sector partners to select from a menu of options for participation.
- Ensures local efforts are consistent with Nebraska's plan for a statewide system.

Activities include: Comprehensive Guidance, Early Awareness Program, A+ Businesses, Internships and Apprenticeships, School-To-Career Database, Teacher/Counselor Summer Internships, Omaha Work Keys, Career Options Plus, Workforce Preparation Program, PROPAL Plus, and Job-Link Hotline.



PRINCIPLES OF TECHNOLOGY

PROGRAM AREAS

Science, Industrial Technology, Mathematics, Tech Prep

GRADE LEVELS

10 - 12th Grades

CONTACT

Papillion-LaVista High School
402 East Centennial Road
Papillion, NE 68046
(402) 339-0405

DESCRIPTION

Papillion-LaVista High School has been teaching Principles of Technology by the Center for Occupational Research and Development (CORD) since its conception and was one of the pilot schools in Nebraska. It is offered to any student who wants to take it. Students who have taken it are in the top 10 percent of their class, the middle 50 percent and learning disabled students and all have been successful. There is no mathematics requirement.

One of the reasons Principles of Technology is successful in Papillion-LaVista High School is that this course is team taught by an industrial technology teacher and a science teacher, so that the strength of each teacher can be utilized for the benefits of the students. With two teachers in the class, the student gets immediate feedback when working on mathematics problems or doing a lab so that they do not get frustrated and give up. Team teaching also means fewer discipline problems. Students are continually encouraged that they can do it, so their self confidence is greatly improved.

Besides following the curriculum outline by CORD, many projects and activities from the industrial technology and the physics departments have been added that relate to the material, such as plaster of Paris bridges, spaghetti towers, and hot air balloons. Most of the students are hands-on learners and enjoy doing the labs and added activities along with the practical aspects of the class.

OLE'S PROJECT

PROGRAM AREAS

Language Arts, Social Studies, Science, Industrial Technology, Business Education

GRADE LEVELS:

K - 12 Grades

CONTACT

Paxton Consolidated Schools
PO Box 368
Paxton, NE 69155-0368
(308) 239-4283

DESCRIPTION

The "Ole's Project" is a multidisciplinary curriculum culminating in the publication of a book, the preparation of several children's stories, and the production of multimedia presentations for use in school, community, and state agencies. It is designed to connect young and old, written text and visual images, and textbook learning with community surroundings.

The "Ole's Project" researched the life of Rosser (Ole) Herstdt, Nebraska's most famous big-game hunter and founder of Ole's Big Game Lounge in Paxton, site of one of the largest and most varied private collections of trophy animals in the world.

While researching the project, students learn basic organizational research, and interviewing skills, as well as the history and geography of Nebraska and the world. Even though the focus is on one man, the very nature of that man and his achievements widen this project. It is based on world geography, the creatures that inhabit the world, the environmental impact and the changes in the laws protecting endangered species, and a study in human relations and the human impact on our environment.

The project utilizes multimedia, a technology medium that incorporates text, photographs, graphics, video, and audio into presentations. The students learn to appreciate and interact with older citizens of the community. This K-12 collaborative venture connects and reinforces the community as an educational resource while enhancing student education. This four-year on-going project includes facets of interdisciplinary, multicultural and outcome based education, as well as visual and kinesthetic methods for special needs students.

THE TRIP

PROGRAM AREAS

Science, Mathematics, Social Studies, English and Fine Arts

GRADE LEVELS

10th Grade

CONTACT

Paxton Consolidated Schools
PO Box 368
Paxton, NE 69155-0368
(308) 239-4283

DESCRIPTION

"The Trip" revolves around planning and taking a one-day field trip that explores seven historical sites, five geographical areas, and the observation of four scientific principles within the community. The field trip visits sites that explain or reinforce the science concepts that educators teach every day and encourages students to learn and understand the history, geography, and science in their community. The students determine the destinations and are assigned to research the sites by accessing the school library, community library, local museums, encyclopedias, history books, and tourist information centers and by interviewing significant members of the community.

The students are able to discover the significance of their community within the greater area of region and nation. Each group develops a presentation on their selected or assigned topic. A detailed trip map and itinerary are planned out. Students approach the administration and the board of education to ask permission to take this trip. After the trip, the students write a critique of their experience and explain what they learned about their community as they visited various points of interest within their community.

TECHNO-SCIENCE

PROGRAM AREAS

Science, Industrial Technology

GRADE LEVELS

9th Grade

CONTACT

Petersburg Public Schools
Box 240
Petersburg, NE 68652
(402) 386-5302

DESCRIPTION

Techno-Science has replaced the traditional physical science and introduction to technology classes at Petersburg. In this class, science concepts are related to practical applications. This class is team taught by a science and an industrial technology teacher.

Eight units were identified by these teachers as being common to both physical science and introduction to technology. Over the summer, objectives were written and instructional strategies were identified. The focus of this course is student-centered learning. Alternative assessment strategies are being developed.

THE BLUE PRINT: A COOPERATIVE APPROACH TO PRODUCING A SCHOOL NEWSPAPER

PROGRAM AREAS

Marketing/Communications, Desktop Publishing, Journalism

GRADE LEVELS

9 - 12th Grades

CONTACT

Plattsmouth High School
1724 Eighth Avenue
Plattsmouth, NE 68048
(402) 296-3322

DESCRIPTION

The Blue Print is the high school's newspaper that is a joint project among students in Journalism 1, Marketing Communications and Desktop Publishing. This project works in compliance with the Nebraska School-to-Work initiative.

The Nebraska School-to-Work initiative is comprised of three components: Work-based Learning, School-based Learning, and Connecting Activities. Work-based Learning was accomplished by developing the Workplace Competencies identified in the SCANS (The Secretary's Commission on Achieving Necessary Skills) report. The identified competencies that effective workers can productively use were resources, interpersonal skills, information, systems, and technology. School-based Learning, the second component, was to integrate academics with vocational education. This integration occurred between the teachers and students of the three classes: Journalism 1, Marketing Communications and Desktop Publishing. The third component, Connecting Activities, was to develop a School-based Enterprise to offer students a taste of the business operations and show the connection of education to the world of work. *The Blue Print* was then created to give students the opportunity to participate in the production of a newspaper.

The main goal of *The Blue Print* is to publish a high-quality newspaper with paid advertisements. Each class and teacher will be responsible for his or her area of expertise while participating as part of a team and meeting the agreed upon deadlines.

The first nine weeks of the year is used for all three classes to introduce their subject areas and to cover the necessary units of instruction to prepare the students to do their assigned jobs. The second nine weeks is used to develop the stories, sell and prepare the ads, and then print the newspaper so distribution can be the week before semester exams, which is the night before Christmas break. The second newspaper is published at the end of February, and the third

is printed during the first week of May. This project can be done by any school. The first step is to get English, Business Education, and Computer instructors to sit down and discuss their contribution to the project and then look at the hardware and software available to produce their newspaper. The first year of this project can be used to determine the content of the newspaper, to start producing a newspaper with any available word processing program, and then to build upon this project every year.

REAL WORLD LABS

PROGRAM AREAS

Industrial Technology,
Career Education

GRADE LEVELS

9 - 12th Grades

CONTACT

Ralston High School
8969 Park Drive
Ralson, NE 68127
(402) 331-7373

DESCRIPTION

The "Real World Lab" program is designed to give students a hands-on, activity-based introduction to career areas that are in great demand. Each "Division" lasts for ten days with each student team of two spending nine of the ten days completing activities that give them an idea of what that career is all about. The tenth day is reserved for a representative from one of the corporate sponsors to come to the class and give a presentation about his/her particular career. Currently, there are twelve Divisions, which all have one or sometimes two corporate sponsors. Each corporate sponsor helps develop or even writes the curriculum for his/her Division. Sponsor-donated equipment or their expertise make the Division as real as possible. Sponsors periodically advise as to changes that need to be made. The "Divisions" are as follows: welding, plastics, sheet metal, machining, hydraulics, multimedia, graphics, electricity, electronics, auto CAD, aviation, and communications.

The school district has made a commitment to provide each student with the opportunity to learn through "Vision 2000," and our corporate sponsors support this effort. In addition, Ralston still has a traditional industrial technology program that offers metals, woods, drafting, auto technology, home maintenance, and small engines. The Real World Lab is a team-taught class for a period of 44 minutes per day for one semester.

THE BOSS PROJECT

PROGRAM AREAS

Business Education,
Mathematics, English

GRADE LEVELS

9 - 12th Grades

CONTACT

Ravenna High School and ESU #10
PO Box 150
Ravenna, NE 68869
(308) 236-5498

DESCRIPTION

"The Business of Successful Surfing Project" (BOSS) provides an opportunity for students to develop real life skills in the world of work and compliment the school's existing curriculum. During the first semester, students are busy sharing information concerning their class and the community. Also, area jobs are cataloged and placed on a World Wide Web Home Page (http://woody.lopernet.net/projects/BOSS.html). This information and more can be accessed by all Nebraskans during the full-year project.

After deciding on their three top employment opportunities, students will complete a job application, resume and letter of application. To complete the job searching mechanics, all students are interviewed live via the Internet. During the project, participants are asked to keep track of their time and submit time cards. Students will deposit the "dollars" accumulated and make monthly bank deposits. Periodically, students are provided with a real life crisis entitled "Curve Cards." Budgets for expenditures are made and checks are written to cover the costs.

The second semester is used to "Make it Grow" by way of savings, stocks and bonds or selling a product or service on the World Wide Web. Students research the best method to make their capital grow and implement their plan. Schools that make the greatest increase in their original capital will be posted on the World Wide Web.

STUFF'N MORE, THE EVERYTHING STORE

PROGRAM AREAS

Mathematics, Accounting, Industrial Technology, Journalism

GRADE LEVELS

11 - 12th Grades

CONTACT

Sandy Creek Jr.-Sr. High School
RR 1 Box 127
Fairfield, NE 68938
(402) 726-2151

DESCRIPTION

When students get to school and realize that they are down to their last piece of paper, or their dog ate their pen, what do they do? At Sandy Creek schools, you head down the hall to "Stuff 'N More, the Everything Store" and buy some supplies. The store, owned and operated by 11th- and 12th-grade Applied Mathematics students, features snacks, balloon bouquets, and T-shirts designed by the students. Other hot items are beef jerky and Rice Krispy bars. Special occasions, such as a popular teacher's birthday, are good for business.

The mathematics teacher came up with the idea for a store after noticing students were unable to make change or do simple calculations in stores or fast food restaurants. The students make all the decisions, do the work and come up with the ideas. Class members polled students to help decide what they would sell. They determined the cost and markup on some items in clever ways. Jerky, for example, is bought in prepackaged various sizes. Students decided to determine the cost per centimeter. They made a line graph called the Jerky O'Meter—to measure the jerky. The cost is determined by the length the piece of jerky measures on the graph.

The Annual Staff does the advertising. They have made flyers promoting the business to parents. The Accounting I class keeps the books. The Industrial Technology class makes flower pots to sell in the store. When students offer to help, they must fill out an application form created by the class. The class also interviews all applicants. The store is staffed with students from various grades almost every period except the half hour before lunch until the half hour after lunch. The students see the store as a real job and feel a great sense of pride and accomplishment.

RURAL SCHOOL-TO-WORK TRANSITION PROGRAM FOCUSED ON COMMUNITY DEVELOPMENT

PROGRAM AREAS

All Areas and Courses

GRADE LEVELS

9 - 12th Grades

CONTACT

Wayne Community Schools
West 7th Street
Wayne, NE 68787
(402) 375-3150

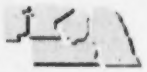
DESCRIPTION

As a direct result of building a 'state of the art' computer network serving the school district, a strong relationship and collaborative attitude exists among the private businesses, the public school district, the state college, the city, and the Chamber of Commerce in Wayne, Nebraska. Not only have the various agencies learned to work together toward reaching a common goal, but a myriad of projects have surfaced providing useful services for all member organizations. One principal activity is the school-to-work program supporting students in grade 9-12.

The Wayne Community School District was one of only three state-funded school-to-work projects in Nebraska in the 1995-96 school year. The unique feature of the project is the focus on preparing each student with specifically identified skills before being placed at a work site and using an integrated curriculum concept in the training program for each student. In other words, the entire high school staff is involved in providing for the needs of each child.

The district also surveyed the largest businesses and industries in Wayne for the purpose of discovering their costs in training new employees in fundamental skills such as reading, writing, measuring, problem solving, social skills, keyboarding, basic mathematics, etc. Despite the fact that Wayne is a small community of 6,000 people, the survey indicated that the six largest businesses invested over $280,000 in one year for training new staff and that business was disappointed in the quality of the graduates from area public schools. The school-to-work grant application in the spring of 1995 then centered on improving the performance of high school graduates in identified skill areas to increase their opportunities for employment, advancement, and in being hired at a higher wage.

Secondly, the businesses were to benefit from lower costs training new employees and less management time given to problems caused by a lack of understanding of assigned tasks.



The school-to-work project was designed to first teach the student about the world of work with a curriculum comprised of the following content areas: understanding the American work ethic, being responsible to the employer, maintaining regular attendance, exhibiting good interpersonal relations, completing tasks effectively and efficiently, presenting appropriate appearance, demonstrating positive attitudes and behavior, understanding the organizational structure and line of command in business and industry, crisis management and critical thinking skills, and making career decisions. After completing the nine-week content area work at a 95 percent proficiency level, the students would receive four weeks of training on specific line skills for the job placement and would be placed on the job.

During the thirteen weeks of student preparation for work, the school-to-work director works with potential employers and develops a job plan for each student based on the need of the worksite. Depending on the type of skills needed on the job, the school-to-work director enlists the help of a teacher in the content area most appropriate.

For example, if the student is to be placed as a secretary in a law office, the specific job description outlined by the employer is reviewed by a business teacher and an English teacher, and an individualized plan is developed to prepare the student for placement. Once the job experience is complete, there is an evaluation of the student's performance and of the specific plan by the employer, the teacher or teachers involved, and the school-to-work director. The student receives a letter grade for the coursework that is averaged with a letter grade developed through the evaluation. The employer is also given the opportunity to hire the student after the four weeks of job experience is complete. While a participant in the school-to-work program, per hour costs for the students are covered through the grant funds.

WESTSIDE HIGH SCHOOL GRADUATION REQUIREMENTS

PROGRAM AREAS

All Areas and Courses

GRADE LEVELS

9 - 12th Grades

CONTACT

Westside High School
87th & Pacific Streets
Omaha, NE 68114
(402) 390-3338

DESCRIPTION

The new graduation requirements at Westside High School are a combination of time, course, and performance requirements. To meet the performance requirements, students must demonstrate proficiency in six areas—problem solving, writing, mathematics skills and calculator, creative/expression, word processing, technology and teamwork.

All courses in the school are demonstration sites for at least one of the proficiencies mentioned above. For example, in the Business Department, Entrepreneurship is a demonstration site for Advanced Writing; Business Law, problem solving; Business Principles and Management, mathematics and calculator and problem solving; and Marketing, creative/expressive. In the Industrial Technology Department, Small Engine/Power Technology is a demonstration site for problem solving; Sketching, creative/expressive; Architecture I, advanced problem solving; and Architecture II, advanced teamwork. Each proficiency has two levels: basic and advanced.

Rubrics have been written to provide consistency of expectations about what will be assessed as well as standards that need to be met. Teachers design authentic demonstrations for each proficiency using course content and rubrics.

OUR TOWN PROJECT AND COTTONWOOD LAKE DEVELOPMENT

PROGRAM AREAS

Fine Arts, Biology, Industrial Technology, Mathematics

GRADE LEVELS

K - 12th Grades

CONTACT

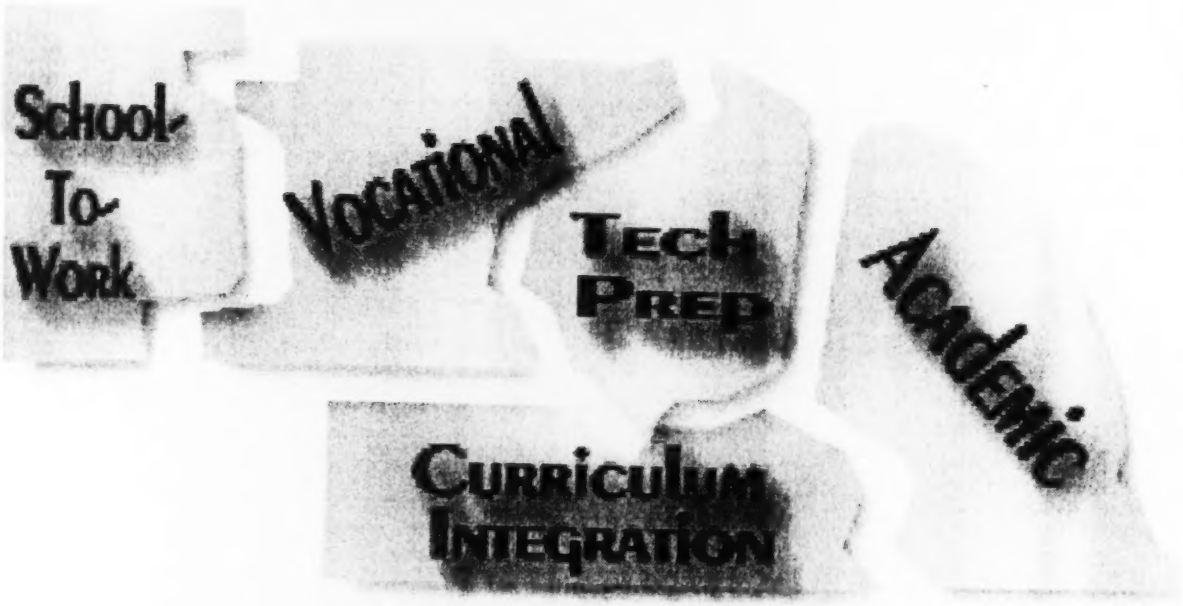
Wolbach High School
Box 67
Wolbach, NE 68882
(308) 246-5232

DESCRIPTION

Wolbach Public Schools are involved in a K-12 "Our Town" project to landscape the school grounds to encourage wildlife. Various classes have responsibility for different phases of the project. Arts classes have designed signs, biology classes are surveying the area for flora and fauna, industrial technology classes have designed and built structures, and mathematics classes have calculated the amounts of materials needed based on their measurements. Partial funding for this project was provided through a Nebraska Game and Parks grant.

Another integrated project undertaken by Wolbach is the Cottonwood Lake. The goal of this project is to develop Cottonwood Lake, situated within five minutes of the school, into a living laboratory for the school. Plans include a general clean up of the area, improving water quality and constructing a nature trail. This project has been funded through grants awarded by the EPA, Nebraska Department of Environmental Quality Control, Nebraska Environmental Trust Fund, and Firestone Company.

RESOURCES



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APPLIED ACADEMICS

Applications in Biology/Chemistry

Applications in Biology/Chemistry is an interdisciplinary lab science course developed by the Center for Occupational Research and Development (CORD), Waco, Texas, with the support of a consortium of state education agencies, including the Nebraska Department of Education. It teaches science in context through issues and topics surrounding work, home, society, and the environment. The 12 units present scientific fundamentals of biology and chemistry and provide a foundation for careers in industrial technology, health occupations, agriculture and agribusiness, and family and consumer sciences. Each unit comes with a workplace related video, a student text with laboratory activities, a teacher's guide, and a resource guidebook. Units of study include: Air and Other Gases, Animal Life Processes, Community of Life, Continuity of Life, Disease and Wellness, Microorganisms, Natural Resources, Nutrition, Plant Growth and Reproduction, Synthetic Materials, Waste and Waste Management, and Water.

Note: All Educational Service Units have the complete set of units.

Contact: Winona Maxon
Nebraska Department of Education
PO Box 94987
Lincoln, NE 68509-4987
(402) 471-4317

Contact: CORD Communications
Box 21206
Waco, TX 76702-9715
(800) 231-3015

Applied Communication

Applied Communication (c. 1988) is a 17-module course developed by the Agency for Instructional Technology (AIT), Bloomington, IN, with the support of a consortium of state education agencies (including the Nebraska Department of Education). Together, the modules constitute a semester-length or year-long course that focuses on communication skills needed in the workplace. Alternatively, each module may be employed as a stand-alone unit in English, business, or other courses. The variability in the suggested length of the whole course is accounted for by the fact that no literature elements are contained in the modules. It therefore remains for the teacher to add a literature component or not.

The 17 modules of *Applied Communication* are:

1. Communicating in the Workplace
2. Gathering and Using Information
3. Using Problem-Solving Strategies
4. Starting a New Job
5. Communicating with Co-Workers
6. Participating in Groups
7. Following and Giving Directions
8. Communicating with Supervisors
9. Presenting Your Point of View
10. Communication with Clients and Customers
11. Making and Responding to Requests
12. Communicating to Solve Conflicts
13. Evaluating Performance
14. Upgrading, Retraining, and Changing Jobs
15. Improving the Quality of Communication
16. Technical Writing
17. Electronic Communication

A later product developed by AIT and South-Western Educational Publishing, *Communication 2000* (c. 1996), incorporates much of the earlier materials, plus a literature component, in 12 modules.

Note: All Educational Service Units have the complete set of Applied Communication modules. A complete set is also housed at the Nebraska Vocational Curriculum Resource Center. A complete set of the Communication 2000 materials is housed at the Nebraska Education Technology Center.

Contact: Bonnie Sibert and Rex Filmer
Nebraska Department of Education
PO Box 94987
Lincoln, NE 68509
(402) 471-4818, 4336

Contact: Nebraska Vocational Curriculum Resource Center
West Campus, University of Nebraska-Kearney
Kearney, NE 68847
(308) 234-8464

Contact: Agency for Instructional Technology (AIT)
Box A
Bloomington, IN 47402
(800) 354-9706

Contact: South-Western Educational Publishing
(800) 354-9706

Applied Economics

The course *Applied Economics* is a one-semester or full-year course that has been implemented in almost every state. The course, which is often called Personal Finance or Consumer Economics, will provide a sound foundation in the principles and concepts of economics, especially those affecting the free market and workplace.

Applied Economics is designed to describe the basic characteristics of the American economic system, demonstrate how fundamental economic concepts such as markets operate in the American system, develop the students' understanding of the economic principles that influence business decisions, help students grasp the economic roles governments play in a market economy, provide hands-on experiences in the operation of a business, and provide opportunities for students to interact with representatives of the business community.

One good resource for teaching the course is *The Economics at Work* curriculum developed by AIT (c. 1996), the National Council on Economic Education, and a consortium of state education agencies. The Economics at Work curriculum is divided into five instructional modules: Producing, Consuming, Exchanging, Saving, and Investing. Each module consists of a combination of interactive videodiscs, video cassette, teacher's guides, and student guides.

A complete set of the modules is housed in the Nebraska Education Technology Center in the teacher preview center.

Contact: Shirley Baum, John LeFeber, and Bonnie Sibert
Nebraska Department of Education
PO Box 94987
Lincoln, NE 68509
(402) 471-4813, 2449, 4818

Contact: Agency for Instructional Technology (AIT)
Box A
Bloomington, IN 47402-0120
(800) 457-4509

Applied Mathematics

Applied Mathematics is a forty-unit course developed by the Center for Occupational Research and Development (CORD), Waco, TX, with the support of a consortium of state education agencies including the Nebraska Department of Education. It teaches algebra and geometry concepts in context in occupational settings. The forty units are designed to be used in two or three one-year courses providing academic credit toward high school graduation. Every unit is provided with workplace-related video programs, hands-on laboratory activities with extensive measurement, and practical problem-solving activities.

Arithmetic, algebra, geometry, trigonometry, probability, estimation, problem-solving, and statistical process control are presented in an integrated fashion within the curriculum. Innovative workplace lab activities for each of the forty units were created with a business and industry focus on measurement and computation, and to help students develop critical thinking skills. *Applied Mathematics* is an integrated set of instructional course materials that includes video, print, hands-on laboratories and practical problem-solving activities. The curriculum is based on an integrated presentation of topics in arithmetic, algebra, geometry, trigonometry, probability, estimation and problem solving. A few of the topics covered among the 40 units include Learning Problem-Solving Techniques, Dealing with Data, Working with Scale Drawings, and Using Formulas to Solve Problems.

Note: All Educational Service Units have the complete set of modules. A complete set is also housed at the Nebraska Vocational Curriculum Resource Center.

Contact: Winona Maxon
Nebraska Department of Education
PO Box 94987
Lincoln, NE 68509
(402) 471-4317

Contact: Nebraska Vocational Curriculum Resource Center
West Campus, University of Nebraska-Kearney
Kearney, NE 68847
(308) 234-8464

Contact: CORD Communications
Box 21206
Waco, TX 76702-9715
(800) 231-3015

Principles of Technology (Applied Physics)

Principles of Technology is a two-year curriculum developed by the Center for Occupational Research and Development (CORD), Waco, TX, and the Agency for Instructional Technology (AIT), Bloomington, IN, with the support of a consortium of state education agencies (including the Nebraska Department of Education). It is designed for high school students and teaches traditional physics concepts in the context of their relationship to four energy systems—mechanical, fluid, electrical, and thermal.

Principles of Technology applies physics principles to technological situations and concentrates more on the use of physics formulas in the workplace rather than on their derivation and manipulation. Principles of Technology's fourteen units cover basic technical principles using practical language and relates those principles to specific problems. It features an integrated set of instructional materials that combine video programs, printed materials, and hands-on laboratory activities.

For students who seek to continue their education after high school, Principles of Technology provides an important academic foundation for advanced-skills classes. For students who seek immediate employment after high school, it provides a basis for understanding the job and for changing with the job; and for students who later decide to attend a four-year baccalaureate program, this course is an excellent foundation.

Contact: Winona Maxon
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Lincoln, NE 68509
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Contact: CORD Communications
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Waco, TX 76702-9715
(800) 231-3015

Workplace Readiness

Workplace Readiness is designed to prepare students for today's changing workplace. The materials include one unit on teamwork, one unit on problem-solving, and one unit on self-management skills. The units focus on the skills students need for working with diverse groups of people, overcoming problems that result from their differences, and resolving conflicts with co-workers.

In "Teamwork," students learn that today's workers must be flexible and willing to adapt in order to work as part of a team and to produce quality products and services. Students learn to recognize the importance of teamwork in the changing workplace; identify the factors that make teams effective; identify barriers to full team participation that result from individual, gender, age, ethnic, handicapping, and racial differences; and resolve conflicts in the workplace.

In "Problem-Solving," students learn that an organization's ability to achieve its goals often depends on how quickly and effectively it can overcome barriers that prevent it from becoming more productive and competitive and from serving its customers better. Students learn to explain the importance of problem-solving in the changing workplace, describe a five-part problem-solving process, apply the process to workplace situations, and solve problems independently and in groups.

In "Self-Management," students learn about flexibility and setting personal performance goals. They learn how to work toward these goals on a daily basis and how to meet higher standards for productivity and quality control. Students learn to explain the importance of self-management in the changing workplace, apply a problem-solving approach to situations involving personal job performance and situations involving personal transitions such as skill upgrading and job changes, and recognize the importance of taking responsibility for their own success on the job and in career directions.

Contact: Carol Jurgens
Nebraska Department of Education
PO Box 94987
Lincoln, NE 68509
(402) 471-0948

Contact: Agency for Instructional Technology (AIT)
Box A
Bloomington, IN 47402-0120
(800) 457-4509

TECH PREP CONSORTIUMS

Central Community College Area
Stephanie Jacobson, Tech Prep Coordinator
PO Box 4903
Grand Island, NE 68802-4903
(308) 389-6307
jacaatec@cccadm.gi.cccneb.edu

During the 1995-96 grant year, eight new school districts have been recruited to join the Central Nebraska Tech Prep Consortium. The consortium has eighteen current, active members. Schools are encouraged to fit Tech Prep into the individual districts by implementing career awareness activities, work-based learning programs, and expanding the applied academics curricula. The counselors have completed a Career Prep handbook to be used at schools of all sizes and diversity. New to this grant year is the implementation of teacher internships. There will be at least 15 teachers participating as interns at a variety of businesses located in Schuyler, Columbus, Grand Island, Hastings, Lexington and Loup City. Fourteen schools have participated in articulation meetings completing 20 new drawing boards. A Principles of Technology Workshop in partnership with the Math/Science Coalition from the University of Nebraska-Kearney will take place during July, 1996. Over 20 schools applied to attend the workshop. Ten schools were chosen and of these five are new tech prep schools.

Metropolitan Community College Area
Ola Anderson, Tech Prep Coordinator
PO Box 3777
Omaha, NE 68103-0777
(402) 449-0242
oandersn@metro.mccneb.edu

Metropolitan Tech Prep Consortium has continued its articulation efforts in the four cluster areas of business/marketing; engineering/construction; Applied Arts; and Nursing/Allied Health. However, a more refined methodology has helped to broaden understanding and communication of Tech Prep's goals and objectives. Advisory and Steering Committees are being revamped to ensure representation for curriculum and community diversity. Marketing has focused on five targeted groups: consortium students; teacher/counselors; parents; prospective high schools and community-based organizations that work closely with schools and parents. Coordination with the Omaha Job Clearinghouse (OJC) and specifically the School to Career Facilitators (located in each Omaha Public Schools high school) and the OJC Business Coordinator has been most beneficial in helping to promote/implement activities, i.e., disseminating information on conferences and curriculum integration; development of teacher/counselor summer internships, respectively. Businesses direct involvement with articulation meetings has also proved effective in disseminating Tech Prep information.

Mid-Plains Community College Area
William Eakins, Tech Prep Coordinator
1101 Halligan Drive
North Platte, NE 69101
(308) 532-8740
wdeakins@ziggy.mpcc.cc.ne.us

Schools in the Mid-Plains Community College Tech Prep Consortium have completed the development of skill-based competencies in six articulated trade and technical areas of instruction. Consortium high schools have successfully implemented courses in Applied Mathematics, Principles of Technology, and Applied Communications into the existing school curriculum. The Mid-Plains Community College Area Career Assessment and Planning Center has also developed a Middle School Career Exploration Program available to the Tech Prep member schools. The emphasis with this program is to provide students the opportunity to explore Tech Prep and College Prep Career options as they relate to the jobs of the future.

Northeast Community College Area
Mary Honke, Tech Prep Coordinator
801 East Benjamin Avenue
PO Box 469
Norfolk, NE 68702-0469
(402) 644-0533
maryh@alpha.necc.cc.ne.us

All schools in the Northeast Tech Prep Consortium are using comprehensive career assessment and research activities to assist students in identifying possible career clusters based on their abilities, interests, and work preferences/personalities. Applied academic areas include Applied Math I & II, Applied Communications, Principles of Technology, and Workplace Readiness. Business and industry are involved through serving on advisory committees, speaking in classrooms and at career fairs, and sponsoring job shadowing and mentoring activities. Nine schools in the consortium are members of the Northeast School-to-Work Partnership.

Southeast Community College Area
Glennis McClure, Tech Prep Coordinator
RR 2, Box 35A
Beatrice, NE 68310
(402) 228-3468 Ext. 320
gamcclur@sccm.cc.ne.us

The Southeast Community College Tech Prep Consortium is actively addressing the various components of the Tech Prep education concept. Teachers in agriculture, business, English, family and consumer science, industrial technology, math, science, and counselors have utilized inservice opportunities to learn about changes that they can incorporate into their curricula for the benefit of all students. Applied academics workshops and educator shadowing into business/industry have been included among key

professional development activities to help support Tech Prep implementation. Curriculum review committees involving secondary and postsecondary faculty are involved in articulation processes, aligning coursework for students to benefit from a seamless education leading to an associate degree and beyond.

Western Nebraska Community College Area
Joyce McDuffie, Tech Prep Coordinator
1601 East 27th
Scottsbluff, NE 69361-1899
(308) 635-6139
jmcduff@Hannibal.wncc.cc.ne.us

Schools in the Western Nebraska Tech Prep Consortium have developed a very aggressive plan for K-12 career education. Applied Mathematics, Applied Biology and Chemistry, Principles of Technology, Applied Communications and Workplace Readiness courses have been implemented in each school. Involvement of business and industry has lead to Adopt-A-School programs and teacher/business internship summer programs.

Nebraska Indian Community College
Joe Prasek, Tech Prep Coordinator
P.O. Box 752
Winnebago, NE 68071
(402) 878-2414

The Nebraska Indian Community College Consortium was activated in January 1996 and is busy securing equipment, developing an applied curriculum and providing teacher/administrator professional development.

CURRICULUM FRAMEWORKS

Agricultural Education Frameworks
Rich Katt (402) 471-2451
rich_k@nde4.nde.state.ne.us

Nebraska Business Education Framework
Bonnie Sibert (402) 471-4818
bsibert@nde4.nde.state.ne.us

Nebraska Framework for Family and Consumer Sciences Education
Shirley Baum (402) 471-4813
sbaum@nde4.nde.state.ne.us

Nebraska K-12 Foreign Language Frameworks
Mel Nielsen (402) 471-4331
mnielsen@nde4.nde.state.ne.us
Marie Trayer (402) 471-6693
mtrayer@nde4.nde.state.ne.us

Nebraska K-12 Industrial Technology Education Framework
Tim Obermier (402) 471-4819
obermier@nde4.nde.state.ne.us

Mathematics and Science Frameworks for Nebraska Schools
Jim Woodland (402) 471-4329
woodland@nde4.state.ne.us
Deb Romanek (402) 471-2503
dromanek@nde4.state.ne.us

Nebraska K-12 Social Studies Framework
John LeFeber (402) 471-2449
jlefeber@nde4.nde.state.ne.us

K-12 Visual and Performing Arts Curriculum Frameworks
Jean Detlefsen (402) 471-2183
jean_d@nde4.nde.state.ne.us
Sheila Brown (402) 471-4337
shelia_b@nde4.nde.state.ne.us

For further information concerning any of the Frameworks, contact the Nebraska Department Education staff at: Nebraska Department of Education, PO Box 94987, Lincoln, NE 68509-4987

NEBRASKA VOCATIONAL CURRICULUM RESOURCE CENTER

Nebraska Vocational Curriculum Resource Center (NVCRC)
West Campus
University of Nebraska-Kearney
Kearney, NE 68847
(308) 865-8462

The NVCRC has many resources under the heading "Applied Academics - Integrated Education" and "Tech Prep." There is no charge to check them out. Requests can be made by calling (308) 865-8462. The following are just a few of the recommended references.

Curriculum Integration Resources

"Interdisciplinary Core Academy for Middle Level Teachers" funded by the U.S. Department of Education to Colorado Center for the 3 R's. Titles and descriptions of the 35 projects developed to integrate social studies, math, English, science, and art for an integrated curriculum:

1. Across the USA
2. Ancient Treasures, Sea Turtles
3. Astronomy Advertising Agency
4. Bent's Fort
5. Bubble Gum
6. Can You Believe Your Eyes
7. Celebration of Cultures
8. The Chameleon Connection
9. Conflict in History, the American Revolution
10. The Cowboy, An American Legend
11. Earth Odyssey
12. Energy
13. Extremes
14. Feeding the World
15. For the Birds
16. France. . . Then and Now
17. From Ashes Comes Life
18. The Future
19. Hand Shakes
20. Hatchet
21. Heavenly Bodies
22. Let's Look Around
23. Lost Mines of Colorado
24. Novel: The Sign of the Beaver, When the Legends Die
25. Our Valley
26. Outdoor Education: Interdependence of Man and Nature
27. Political Election
28. Project Escape
29. Southwestern Indians
30. Survival
31. The 3 Durangos
32. The Shining Mountains
33. Tolerance of Diversity
34. Voyages
35. Water

Integration of Social Studies Principles in the Home Economics Curriculum, 1992. This guide is designed to help integrate the fundamental principles of social studies into the home economics curriculum.

Integrating "Hands-On" Activities into the Mathematics Curriculum, 1993. Activities for various mathematical functions and concepts.

St. Mary's County Public Schools, High School Programs of Studies, 1991-1992, 1992. Program requirements for high school students, including tech prep clusters and course descriptions.

An Integrated Curriculum Plan for Incorporating Technology Education, Language Arts, Mathematics, Science, Social Studies, 1992. Various units on integration of academics into technology education; based on Applied General Education Through Technology Education.

The following is a set of videos and a teacher's guide. The series uses some humor to introduce students to professions and to their working environments. The videos relate technology, careers, and mathematics with a focus on the video topic, 1990.

01. Agriculture
02. Aircraft Design
03. Architecture and Structural Engineering
04. Automotive Design
05. Cartography
06. Fashion
07. Water Engineering
08. Optics
09. Putting Man in Space
10. Sound Engineering
11. Statistics
12. Sports Performance

Vocational Applied Mathematics for Marketing Education, 1991. A student manual to reinforce math skills through the vocational curriculum. Includes student information sheets, application problems, supplemental word problems, appendices, and answers. Units on purchasing, pricing, interest, and finance.

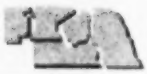
Designing Interdisciplinary Curriculum in Middle, Junior High, and High Schools, 1994. Contains proven, integrated sample curricula with contact sources for more information. Higher order thinking, integrated curriculum, and authentic assessment are stressed.

Integrating Vocational and Academic Education: A Practitioner's Guide, 1992. Guide to integration covers a five-stage hierarchy, teacher roles, and administrative practices and procedures.

Integration Conference, 1992. Video from integration conference in Lincoln, NE, May, 1992, with Dr. Gene Bottoms of SREB. Three segments: integrating college prep and vocational education; results of integrating; and key strategies for integrating.

NCRVE Teleconference on Integration, 1992. Three-part conference on the integration of academics and vocational education; the role of vocational education in restructured schools, and a multidisciplinary approach to technology (includes Columbus Lakeview, Nebraska).

Applied General Education Through Technology Education, 1992. Curriculum guide with units designed to enhance elements in general education such as math and language arts naturally being taught in technology education.



Technology, Science, Mathematics: Connection Activities, 1996. Provides students with hands-on applications of math and science concepts and theories behind technological devices. Units on power boat, composite beam, cabin insulation, magnetic levitation vehicle, and more. Great for team teaching.

Education That Works: Applied Skills for Tomorrow's Technologies, Final Status Report, 1992. Report format. Seattle Community Colleges, Boeing Applied Academics Grant to improve student technical skills. Provides technology core focal paths, sequence, and implementation.

Making High Schools Work Through Integration of Academic and Vocational Education, 1992. Chapters on what will work, raising expectations, making academic learning real, integration, academic and vocational teachers working together, program of study, guiding student choices, etc.

High Schools That Work: Outstanding Practices for Raising the Achievement of Career-Bound High School Students, 1993. Describes practices and their appropriate contacts that have proven effective in preparing career-bound students.

Planning Integrated Curriculum: The Call to Adventure, 1993. Helps the reader to develop an integrated curriculum using a step-by-step process for planning teams, communication, dissolving boundaries, establishing outcomes and standards, etc.

ACT: An Interdisciplinary Curriculum Concept for Applied Academics, Career Exploration, and Technological Literacy, 1994. Middle school curriculum developed to provide ideas for educators to help young people think critically and develop healthy lifestyles. Relates technology to living and working, providing information, and sciences.

Tech Prep Resources

AVA Guide to Federal Funding for Tech Prep, 1993. This guides provides valuable information concerning state and national programs on tech prep. Also has audit issues and appendices that include policies, coordinators, resources, etc.

Tech Prep: Definitions/Processes/Curriculum, 1992. Segments on: a) A National Education Reform Movement, b) Goals - Issues - Challenges, c) Using Applied Academics as a Foundation.

Tech Prep/Associate Degree: A Practical Approach to a Proud Nation, 1992. Presentation to Nebraska Vocational Conference, August 1992. Supports and defines the various processes of tech prep and program development.

Tech Prep: Planning for the Twenty-First Century, 1991. Video on how technological improvements have created a greater demand for higher skilled workers and how tech prep will help provide the necessary skills. Identifies students who can best be served by a tech prep program.

Partnerships: World Class Workforce, 1991. Video discusses people involved and necessity of defining roles, planning, implementing, and articulation. Stresses the key partnerships of alliance between academic and vocational instruction, as well as secondary and postsecondary.

Tech Prep Articulation Process: Central Nebraska Tech Prep Associate Degree Consortium, 1993. Provides six-step articulation procedure for tech prep program with career clusters and sample agreement forms.

Applied Mathematics: A Foundation Course for Tech Prep, 1992. Report presented at the National Tech Prep Network Conference, March 1992. Shows relationship of applied academic areas, high school, and two-year college education, and job training.

Tech Prep Student Handbook, 1992. Chapters discuss benefits of tech prep, how to use the guide, basic information on tech prep, articulation between secondary and postsecondary, advanced credit, and tech prep program descriptions.

Field Trip to the Future Video Series: Helping Others: Family, Social, and Human Services, 1994. Video interviews a child care worker, dietetic technician, and paralegal to show some careers available in the family, social, and human service fields.

Tech Prep and Counseling: A Resource Guide, 1993. Units on tech prep for counselors: defining and implementing tech prep; counselor role in tech prep; definition of terms; and resources and ideas, including integration and applied academics.

Tech Prep Careers of the Future Video Series. . . Production and Technology, 1994. Video takes a look at work activities, necessary skills, and work environment of careers in the production and manufacturing fields. Specific careers include printing press operator, CNC operator, and food processing specialist.

Field Trip to the Future Video Series. . .Making Money: Business and Management, 1994. Video takes a look at jobs in business and management-real estate, office, and restaurant managers. Interviews people for skills and duties required in each type of career.

Tech Prep Careers of the Future Video Series. . .Communications, 1994. Video shows interviews of people and discusses with them the work activities, aptitudes and skills, and work environment in their careers. These include news cameraman, an advertising-sales representative, and graphic designer.

A Leadership Team Manual for Nebraska Tech Prep. Planning guide for tech prep in Nebraska. Chapters on Why Tech Prep is Needed, Applied Academics, Articulation Process, Career Counseling, School-to-Work, and Creating a Leadership Team.

SOUTHERN REGIONAL EDUCATION BOARD (SREB)

Southern Regional Education Board
Publication Orders Department
592 Tenth Street, NW
Atlanta, GA 30318-5790
Fax: (404) 872-1477

The SREB *High Schools That Work* program is helping schools strengthen programs for often-forgotten career-bound students by creating a school-to-work system that prepares young adults to meet the requirements of the modern workplace.

Seven Most-Improved High Schools That Work Sites Raise Achievement in Reading, Mathematics, and Science, Gene Bottoms and Pat Mikos. Profiles seven HSTW schools that made the most progress in raising students achievement between 1990 and 1993 and describes the school and classroom practices that contributed to the improvement. 28 pages, 1995, $2.

Reading: A Report on Improving Career-Bound Students' Learning, Gene Bottoms. Examines reading achievement at 197 new *High Schools That Work* sites and suggests ways for all high schools to improve language arts instruction for career-bound students. 32 page, 1995, $2.

Mathematics: A Report on Improving Career-Bound Students' Learning, Gene Bottoms and Alice Presson. Examines the mathematics achievement of career-bound students at 197 new High Schools That Work sites and suggests ways for all high schools to improve mathematics learning. 36 pages, 1995, $2.

Site Development Guides: High Schools That Work Site Development Guides are written with the practical needs of school leaders—superintendents, principals, teachers, and counselors—in mind. Each guide provides hands-on advice for changing school and classroom practices to give career-bound students the academic and technical skills they need.

#1 Where Do You Begin? (4 pages, $1)
#2 School Site Teams (16 pages, $1.50)
#3 Needs Assessment (16 pages, $1.50)
#4 Staff Development (20 pages, $1.50)
#5 Guidance (28 pages, $1.50)
#6 Extra Help and Time (28 pages, $1.50)

Videos:
High Schools That Work offers 33 new videotapes featuring four nationally recognized keynote speakers and 29 extended workshop sessions on school and classroom practices designed to raise the achievement of career-bound high school students. These videos include:

Improving High School Vocational Studies (1995, 4 hours, $50)
Formulating Plans for Adding a Work-Based Learning Component (1995, 92 minutes, $50)
Lessons Learned in Planning Work-Based Learning (1995, 1 hour, $25)

Youth Apprenticeship in the State of Maine (1995, 43 minutes, $25)
Getting Career-Bound Students to Make the Effort to Meet Higher Standards (1994, 90 minutes, $25)
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Profiles and Best Practices: Exemplary Vocational Special Populations Programs
Z. B. Matias, C. Maddy-Bernstein, J. A. Kantenberger, c. 1995
Individuals working with special populations face the challenge of finding creative ways to help these students overcome many of the barriers that can hinder their success. This monograph discusses the characteristics shared by exemplary vocational special populations programs. Twenty key components are described, from administrative leadership and support to program evaluation, integrated vocational/academic curriculum, instructional support services, and work experience opportunities. Best practices for each component provide concrete examples culled from exemplary programs. ($8.50)

Integrating Academic and Vocational Education: A Review of the Literature, 1987 - 1992
C. Stasz, T. Kaganoff, R. Eden
Although the Perkins legislation mandates integrated curriculum, it leaves wide leeway for implementation. The absence of specific guidance and technical assistance for implementing integrated curriculum presents pitfalls but also opportunities for educators to tailor their programs to local needs and conditions. This literature review offers an excellent descriptive "map" of the available integration literature. It covers issues ranging from the current state of integration practice to observed outcomes, policy factors, and promising integration approaches. Many of these documents, focusing on planning and implementation, will be useful to practitioners as well as policy makers and educational researchers.

Getting to Work: A Guide for Better Schools
A comprehensive package of strategies, activities, and case studies for teachers and administrators dedicated to improving education. It is about helping all students master a high level of academic knowledge and skills—preparing them for a lifetime of learning and working. The Guide provides all the tools needed to create a curriculum that will make the most of economic and cultural opportunities. The Facilitator's Guide has tools for organizing a wide range of professional development activities for *Getting to Work*. It includes workshop plans, video with six examples from real high schools demonstrating

selected components of *Getting to Work*, and 100+ overheads. The Practitioner's Guide contains five modules to help develop the key components of work-oriented learning and instruction: Education for Work, Integrated Curriculum, Learning Experiences, Student Assessment, and Cross-Cutting Issues.

Economic Returns to Non-Baccalaureate Education and Training for Postsecondary Adults and Students
P. Stern, c. 1995.
The federal government, along with state and local governments, subsidizes various forms of non-baccalaureate education and training for postsecondary students and adults, with the intention of helping these individuals prepare for employment. Do these efforts pay off? This Working Paper focuses on the kinds of gains in earnings that are likely to result from various forms of education or training. This 40-page Working Paper was originally prepared for the Committee on Postsecondary Education and Training for Workplace, National Research Council/National Academy of Sciences. ($3.50)

Integrating Academic and Vocational Education
W. N. Grubb
This article focuses on education reform at secondary level, describing three approaches to integrating vocational and academic education: the Academy Model; occupational clusters, career paths, and majors; and occupation and magnet schools. ($1)

Establishing Integrated Tech Prep Programs in Urban Schools: Plans Developed at the NCRVE 1993 National Institute
NCRVE, November, 1993.
In July 1992, after a competitive application process, the National Center for Research in Vocational Education (NCRVE) invited ten high school teams (a state-level staff person, faculty, administrators, and student services personnel) to attend a week-long institute on establishing the integration of academic and vocational education in urban schools. In the course of the institute, each team created a strategic plan for the development of a program of integrated academic and vocational education. This publication contains ten planning documents produced at the institute. It includes specific examples that should be of assistance to high school planner initiating or enhancing their own programs of tech prep integration. (484 pages, $25)

New Designs for the Comprehensive High School Videotape ($15)
During 1994, five benchmark videotapes were designed and produced to describe visually key aspects of the processes and features of *New Designs for the Comprehensive High School*, originally described in the NCRVE publication New Designs for the Comprehensive High School. The benchmark videotapes are compiled here as a single five-program videocassette, to be used in the training and technical assistance process of the New Designs project, showing the project in operation. Each program focuses on a particular feature of the New Designs specifications:

- "Learning Process: Project-Based Learning"
- "Learning Partnerships: School- and Work-Based Learning"
- "Learning Environment: Individual Work Stations and Work Groups"
- "Learning Technology: Learners as Producers and Managers"
- "Learning Process: Assessment Through Portfolios"

Case by Case
B. J. Schmidt
Lack of open communication is one of the greatest barriers to curriculum integration. Years of turfism and lack of support often hinder the collaboration between school personnel that is crucial for reforms to take root. This article highlights results from an extended study of ten schools identified as exemplary for their integration efforts. ($2)

Education Through Occupations in American High Schools: Approaches to Integrating Academic and Vocational Education, Volume I
W. N. Grubb, Editor
The majority of high school students view their schoolwork as necessary to their future employment, whether culminating in acceptance to college or with a high school diploma. Yet the courses dominating the curriculum, the high-status "school subjects" often have the least application to the world of careers and adult responsibilities; that is, they are "academic" in the worst sense of the word. This book addresses this paradox, suggesting that the separation of vocational and academic purposes need not be accepted as inevitable. The editor and authors examine curriculum integration from a variety of perspectives, presenting this complex reform as a possible solution to many current widespread complaints about the secondary schools in this country.

Education Through Occupations in American High Schools: Approaches to Integrating Academic and Vocational Education, Volume II
W. N. Grubb, Editor, c. 1995.
Reforms in education safer from a long history of proposal and failure. This cycle of reform generates great excitement but fails to change schools in fundamental ways. This book proposes to integrate academic and vocational education by changing educational practice. The editor and authors examine implementation issues, new roles for teachers and administrators, and related programs and supportive issues.

The Mindful School: How to Integrate the Curricula
Robin Fogarty
IRI/Skylight Publishing, Inc., 200 East Wood Street, Suite 274, Palatine, IL 60067, 1991. Models are presented that conceptualize and reconceptualize "What's worth teaching?" and "How do I best present that to students?"

WORLD WIDE WEB

NCRVE has compiled an online guide to the 22 industry-based skills standards projects sponsored by the US Departments of Education and Labor. The guide lists contact information for each project and includes links to electronic sources of information (and sometimes the text of the standards).
http://vocserve.berkeley.edu/skillstand.html

Executive summaries of the following recent NCRVE publications (http://vocserve.berkeley.edu/Summaries/):

- Getting to Work: A Guide for Better Schools (MDS-GTW)
- Inclusion/Detracking: A Resource Guide (MDS-746)
- Making Sense of Industry-Based Skill Standards (MDS-777)
- Preparing Teachers to Successfully Integrate Vocational and Academic Education: A Case Study Approach (MDS-780)
- A School-to-Work Resource Guide: Focusing on Diversity (MDS-747)

How to Connect to NCRVE Electronic Services

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VocServe—To connect over the Internet, telnet to vocserve.berkeley.edu if you do not have access to telnet or if you prefer to connect directly by modem, dial 510-643-6793 (modem settings are 8 data bits, no parity, and 1 stop bit; speed can be up to 14,400 bits per second). Type GUEST at the initial prompt to have a look around. To create a permanent account on the system, type NEW at the initial prompt and you will enter the online registration process.

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INNOVATIVE CURRICULUM INTEGRATION BEST PRACTICES SUBMISSION FORM

Descriptions of innovative best practices for curriculum integration and Tech Prep (both secondary and postsecondary) will be published in a supplement for the 1996-97 school year. Please nominate your own program or someone else's.

Your name_____

Address_____

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Telephone No. _____

Person(s)/Program Nominated:

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Name Program Areas(s) or Courses that are integrated:

Unit Title or Theme (if appropriate):

Grade Level(s) involved:

Description (feel free to attach separate copy)

Instructional Activities (feel free to attach separate copy):

Materials and Resources used:

Please send completed form by January 1, 1997 to:
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